

[SEMICONDUCTOR DEVICE AND FABRICATING METHOD THEREOF]

Abstract

A semiconductor device and method of manufacturing the same are disclosed. A conductive structure, spacers and a dielectric layer are formed on a substrate. Thereafter, a portion of the cap layer, a portion of the spacers and a portion of the dielectric layer of the conductive structure are removed to form a funnel-shaped opening. The shoulder section of the conductive layer exposed by the funnel-shaped opening is removed to form a shoulder recess. A liner layer is formed on the sidewall of the funnel-shaped opening and then a bottom plug is formed inside the funnel-shaped opening. Another dielectric layer is formed over the substrate. A top plug is formed in the dielectric layer such that the top plug and the bottom plug are electrically connected. Finally, a wire line is formed over the substrate.